

Appln. S.N. 10/673,762
Amdt. dated February 22, 2006
Reply to Final Office Action of January 26, 2006
Docket No. GP-302388

9

REMARKS

Entry of this Preliminary Amendment before continued examination of the instant application is respectfully requested. Upon entry of this Amendment, claims 1-7, 9-22, 25 and 26 remain in the application. Claims 8, 23 and 24 are cancelled. Claims 27-35 have been withdrawn from consideration as being drawn to a non-elected species. Claims 36-41 have been withdrawn from consideration as being drawn to a non-elected invention. New claims 42-45 have been added in order to set forth additional specific embodiments of Applicants' invention. Support for these new claims may be found throughout the specification as filed, at least at paragraphs [0032] and [0033]. Reconsideration of the claims is respectfully requested.

Claims 2, 4, 5, 7, 9 and 16-18 stand rejected (in the Final Office Action of September 26, 2005) under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. The Examiner states that it is unclear whether the term "interfacial layer" describes an additional layer or further describes the ceramic layer.

Applicants have amended claims 2, 4, 5, 7, 9 and 16-18 to further clarify which layer (e.g., the ceramic layer, the metallic layer, or an additional interfacial layer) is the subject matter of the particular claim. Support for the amendments to claims 2 and 16 may be found in the specification as filed, at least at paragraph [0032]. Support for the amendments to claims 4 and 17 may be found in the specification as filed, at least at paragraph [0016]. Support for the amendments to claims 5 and 18 may be found in the specification as filed, at least at paragraph [0036] and in the claims as filed. Support for the amendments to claim 7 and 19 may be found in the specification as filed, at least at paragraph [0036] and in Figure 1. Support for the amendments to claim 9 and 20 may be found in the specification as filed, at least at paragraph [0027]. As such, the Applicants submit that the rejection based upon 35 U.S.C. 112, second paragraph has been traversed and overcome.

Claims 1-26 stand rejected (in the Final Office Action of September 26, 2005) under 35 U.S.C. § 102(b) as being anticipated by Dearnaley et al. (U.S. Patent No. 6,087,025). The Examiner stated that the reference clearly includes a metal carbide layer formed between diamond-like carbon and the additional layer, and thus provides for the instant invention.

Appn. S.N. 10/673,762
Amdt. dated February 22, 2006
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Docket No. GP-302388

10

Applicants respectfully submit that amended claims 1 and 15 recite a **diamond** coating or layer disposed over the interfacial barrier laminate or the carbide rich coating. In sharp contrast, the '025 patent recites a diamond-like carbon. One skilled in the art is cognizant of the fact that diamond and diamond-like carbon are **different** compounds having different crystallographic structures and different properties. Diamond-like carbon (DLC) is a term which describes carbon having both graphitic and diamond like characteristics (see <http://www.google.com/search?hl=en&q=define%3A+diamond-like+carbon>), whereas diamond is a crystalline form, or allotrope, of carbon (see en.wikipedia.org/wiki/Diamond). Applicants respectfully submit that the '025 patent does not teach or suggest the same layers as recited in Applicants' claims.

Furthermore, Applicants recite at least one "metallic layer" in amended claims 1 and 15. In sharp contrast, the '025 patent teaches the use of silicon and/or germanium layers, which are semi-metallic, not metallic.

For all the reasons stated above, it is submitted that Applicants' invention as defined in claims 1-26 is not anticipated, taught or rendered obvious by the cited reference, either alone or in combination, and patentably defines over the art of record.

Claims 1-9 and 15-26 stand rejected (in the Final Office Action of September 26, 2005) under 35 U.S.C. 102(e) as being anticipated by Welty et al. (U.S. Patent No. 6,904,935). The Examiner stated that the '935 patent discloses a diamond layer on a substrate having the claimed intermediate layers thereon.

Applicants respectfully submit that amended claims 1 and 15 recite a diamond coating or layer disposed over the interfacial barrier laminate or the carbide rich coating. In sharp contrast, the '935 patent recites an **amorphous diamond** layer. The '935 patent states in part, at Col. 6, lines 55-58, that "amorphous diamond is a form of **non-crystalline** carbon...and is also sometimes referred to as tetrahedrally-bonded amorphous carbon (taC)." In sharp contrast to an amorphous diamond, a **diamond** is a **crystalline** form, or allotrope, of carbon (see en.wikipedia.org/wiki/Diamond). Applicants submit that one skilled in the art would recognize that diamond and amorphous diamond are **different** compounds having different

Appln. S.N. 10/673,762
Amdt. dated February 22, 2006
Reply to Final Office Action of January 26, 2006
Docket No. GP-302388

11

crystallographic structures and different properties. Applicants respectfully submit that the '935 patent does not teach or suggest the same layers as recited in Applicants' claims.

For all the reasons stated above, it is submitted that Applicants' invention as defined in claims 1-9 and 15-26 is not anticipated, taught or rendered obvious by the cited reference, either alone or in combination, and patentably defines over the art of record.

Claims 1-9, 15-24 and 26 stand rejected (in the Final Office Action of September 26, 2005) under 35 U.S.C. 102(b) as being anticipated by Chen et al. (U.S. Patent No. 5,224,969). The Examiner stated that the '969 patent discloses a diamond layer on a substrate having the claimed intermediate layers thereon.

Applicants respectfully disagree with the Examiner's assertion that the '969 patent discloses "the claimed diamond layer on a substrate having the claimed intermediate layers thereon." The '969 patent clearly discloses a **diamond substrate** (e.g., single crystal half carat diamonds) having layers (e.g., metal carbides, metal nitrides, and metals) established thereon, not a diamond layer on a substrate, as asserted by the Examiner.

In sharp contrast to the teaching of the '969 patent, Applicants' invention as defined in independent claims 1 and 15 recites a substrate (e.g., steel or cemented carbide) having intermediate layers disposed thereon, with an outer diamond coating/layer disposed thereon. It is submitted that the substrates and the layers taught in the '969 patent are clearly distinguishable from those recited in Applicants' claims.

For all the reasons stated above, it is submitted that Applicants' invention as defined in claims 1-9, 15-24 and 26 is not anticipated, taught or rendered obvious by the cited reference, either alone or in combination, and patentably defines over the art of record.

Claims 1-24 stand rejected (in the Final Office Action of September 26, 2005) under 35 U.S.C. 102(b) as being anticipated by Kimock et al. (U.S. Patent No. 5,135,808). The Examiner stated that the '808 patent discloses a diamond layer on a substrate having the claimed intermediate layers thereon.

Applicants respectfully submit that the '808 patent recites a **diamond-like carbon**. In sharp contrast, Applicants' amended claims 1 and 15 recite a diamond coating or layer disposed over the interfacial barrier laminate or the carbide rich coating. Reiterating the arguments made

Appln. S.N. 10/673,762
Amdt. dated February 22, 2006
Reply to Final Office Action of January 26, 2006
Docket No. GP-302388

12

in reference to the '025 patent, Applicants respectfully submit that diamond and diamond-like carbon are **different** compounds having different crystallographic structures and different properties. As the two layers are different, Applicants respectfully submit that the '808 patent does not teach or suggest the same layers as recited in Applicants' claims.

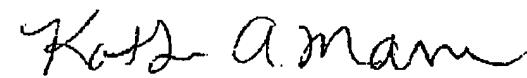
For all the reasons stated above, it is submitted that Applicants' invention as defined in claims 1-24 is not anticipated, taught or rendered obvious by the cited reference, either alone or in combination, and patentably defines over the art of record.

In summary, claims 1-7, 9-22, 25 and 26 remain in the application, and new claims 42-45 have been added. It is submitted that, through this amendment, Applicants' invention as set forth in these claims is in a condition suitable for allowance.

Further and favorable consideration is requested. If the Examiner believes it would expedite prosecution of the above-identified application, the Examiner is cordially invited to contact Applicants' Attorney at the below-listed telephone number.

Respectfully submitted,

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